

# Explosives Test Range

[www.inl.gov](http://www.inl.gov)

INL's explosives test range provides scientific analysis of bench- and full-scale events.



For years, scientists and engineers have studied how vibrations, waves, and sway affect buildings. Much of this research has helped protect structures against destructive natural phenomena like earthquakes and hurricanes. Today, however, violent and energetic motions from man-made threats like improvised explosive devices are a global concern that must also be evaluated.

At Idaho National Laboratory (INL), engineers and materials scientists operate a dedicated explosives test range to study the physical impacts that modern, high-yield explosives have on buildings, barriers, and security systems. Data collected from INL's range provides federal agencies, law enforcement, and the military with unbiased, scientifically documented information aimed at improving security and increasing protection strategies.

Situated on 890 square miles of desert landscape, the 10-acre explosives range can handle a variety of energetic experiments including explosive events with a maximum charge weight of 20,000 pounds TNT equivalent and shoulder-fired artillery such as rocket-propelled grenades.

Staffed by some of the world's most renowned science and engineering experts, the range uses advanced computer modeling, scalable detonations, and post-event analysis to characterize explosive effects like air blast, crater size, barrier damage, and debris. The range is also flexible, allowing virtually any type of barrier or material to be rapidly fabricated, installed, and configured in a variety of positions for testing.

Information and results from testing have already led to the development and installation of better barriers and walls, reinforced armor packages, and improved placement of security systems and sensors.

## Quick Facts

- INL's expertise in explosives and materials design dates back to the 1940s.
- INL supports DOE, DOD, DHS, and law enforcement with explosives research and testing.
- The range can handle explosions of 20,000 pounds TNT equivalent and inert projectile flights of nearly five miles.
- INL has conducted live testing with explosively formed projectiles, rocket-propelled grenades, breaching and shaped charges, flyer plates, and vehicle-borne improvised explosive devices.
- Test results and potential solutions are modeled and analyzed using data from state-of-the-art sensors and high-fidelity computer programs.

## For More Information

*John Weathersby, Ph.D.*  
(208) 526-6061  
[john.weathersby@inl.gov](mailto:john.weathersby@inl.gov)

